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H. S. LAWTON

BOYS IN THE SPRING AGREE WITH IZAAK WALTON: "GOD NEVER DID MAKE A MORE CALM, QUIET, INNOCENT RECREATION" THAN FISHING

Bulletin No. 1, April 28, 1952

New Canal May Join Rhine and Rhone Rivers

THE 20th-century dream of a united Europe may come closer to reality through a new linking of two of the continent's longest rivers—the 700-mile Rhine and the 500-mile Rhone. Presently under study is a plan to construct a canal which would join the headwaters of these rivers in Switzerland, and open for commerce a 1,200-mile water route from the North Sea to the Mediterranean.

Already a network of French canals connects the two streams. The most direct of these, the Rhone-Rhine Canal, begins on the Doubs River, one of the many branches of the Rhone. Two hundred miles farther north it joins the Rhine at Strasbourg. Another, the Rhine-Marne Canal, also terminates at Strasbourg. It begins near Vitry on the Marne river 195 miles west, and by a devious route connects with the Rhone via Paris.

Rhine Serves Many Countries

Water highways are vital arteries to the European lands through which they flow. In ancient times the Rhone opened the heart of France to Phoenician, Greek, and Roman cultures. Christianity used the route on its journey north. The centrally located Rhine has been one of Europe's chief waterways from earliest times. For centuries it has served Belgium, the Netherlands, France, Germany, and Switzerland.

The Rhine rises high in the southern Swiss Alps. Two branches join in southeastern Switzerland. Flowing northward, this larger stream separates Switzerland from tiny Liechtenstein and Austria. Veering west, it next forms the Swiss-German boundary as it pushes a harness of hydroelectric projects to the Swiss inland port of Basel.

At Basel the Rhine turns sharply northward again and tumbles between Germany's Black Forest and the Alsatian hills of France to Strasbourg. This city's Latin name *Stratisburgum* means "Town-on-the-Routes," a name still justified today. Its river and canal routes make it a shipping center for the industrial east of France.

Rhone Is One of Europe's Swiftest Rivers

Most Rhine traffic—in normal times 90,000,000 tons a year—flows between Strasbourg and the North Sea. Along this path move barges filled with coal, petroleum, grain, and other commodities. The Rhine passes between rocky heights dotted with medieval castles (illustration, next page). Famous towns rise from its banks—Duisburg, Europe's largest inland port, Cologne with its magnificent cathedral, and Bonn, birthplace of Beethoven and capital of western Germany.

France's Rhone River is one of the swiftest in Europe, attaining in certain stretches a velocity of 40 miles an hour. Like the Rhine, it begins in the Swiss Alps, far to the east of Lake Geneva. Its torrential rush southward to the sea has, in the past, discouraged extensive use of the river as a commercial artery.

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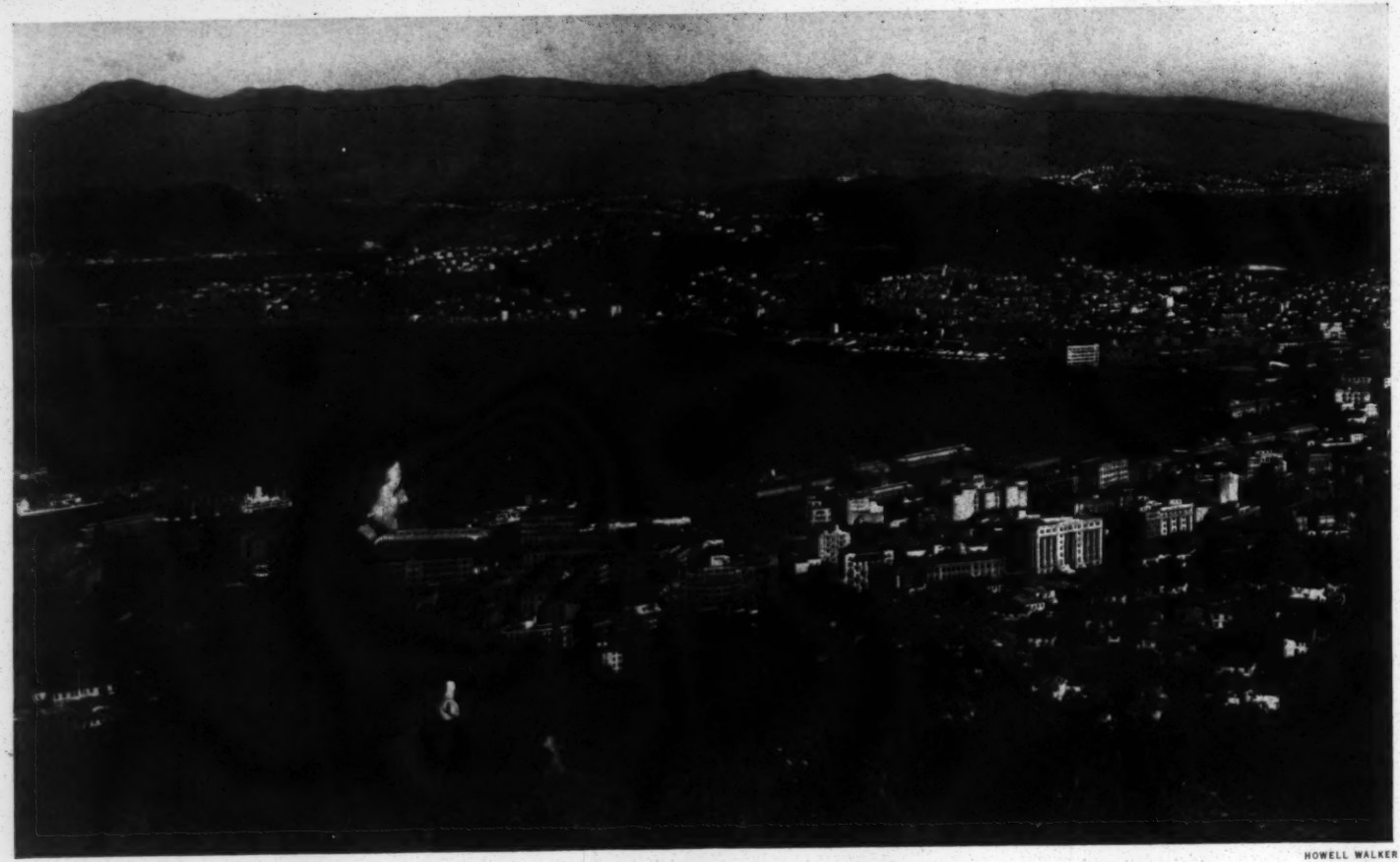

HOWELL WALKER

(SEE BULLETIN NO. 2)

WELLINGTON, NEW ZEALAND'S CAPITAL AND OLDEST CITY, IS THE GEOGRAPHIC HUB OF THE DOMINION, WITH 190,000 RESIDENTS. IT OCCUPIES A PENINSULA PROJECTING INTO COOK STRAIT FROM NORTH ISLAND'S SOUTHERN CURVE, AND SPRAWLS OVER THE HILLS WHICH RISE FROM ITS SPACIOUS HARBOR

Bulletin No. 2, April 28, 1952

New Zealand Harbors Contradictory Wildlife

NEW ZEALAND, on the opposite side of the world from the United States, is a land where flightless birds use their long noses as third legs, glowworms light up caves, and "fossils" are alive.

This Dominion of the British Commonwealth has been called "a miniature universe of natural marvels." Its inhabitants are friendly people of British descent and Polynesian Maoris who preceded the white men by several centuries. They now live peacefully together.

Captain Cook First White Man to Land

The Maoris, who enjoy equality with the whites and work and fight side by side with them, once fought against them. They fought so fiercely that the first European to see the islands, the Dutch explorer Abel Tasman, was unable to land when he arrived in 1642. New Zealand was not explored until 1769 when Captain James Cook landed and claimed the territory for England.

Captain Cook found the Maoris unfriendly, as did whalers, sealers, and the first white colonists. The Maoris and the English fought for years over possession of the land but finally settled down together in peace. Since the Maori-English wars ceased, the Maoris have trebled in population.

The three main islands of the Dominion of New Zealand are North, South, and Stewart. The latter island lies just off the south coast of South Island and is much smaller than the other two.

Together with numerous small outlying islands, they have an area about the size of Colorado—nearly 104,000 square miles. Their population of just under 1,900,000 is outnumbered by cattle 2½ to one.

Christchurch Has English Appearance

New Zealand's four principal cities are Auckland, Wellington (illustration, inside cover), Christchurch, and Dunedin. Auckland, with nearly 300,000 people, is the metropolis of the dominion, and the chief port. It stands at the narrowest point of North Island. Its spacious harbor can shelter fleets of large ships, and it is an important naval base. Steamship and air lines connect with Australia, the British Isles, western Canadian ports, and the United States.

Christchurch, on South Island's east coast, is much like an English city, with its Anglican cathedral and its college—Canterbury University College, part of the University of New Zealand. With a population of more than 174,000, Christchurch is the largest city on South Island.

Dunedin, southernmost large city (nearly 90,000) is Scottish in flavor. Gray stone buildings, often veiled in mist, are reminiscent of Edinburgh. Dunedin is the seat of the dominion's oldest university—Otago—and its main street is the namesake of Edinburgh's Princes Street.

New Zealand's scenery ranges from flat sandy beaches like those of Florida to rock-bound coasts resembling those of Maine; from a mountain chain dominated by snow-clad Mt. Cook, towering 12,349 feet, to rolling grasslands where sheep (illustration, next page) and cattle graze.

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Today French engineers are taming their turbulent waterway. Between Lake Geneva and its mouth at the Mediterranean (over 300 miles) 21 dams will generate power and provide water for farmland irrigation. Many canals will aid ship transportation.

The history of the Rhone valley matches the river's turbulence. Its southernmost town, Arles, is joined to the Mediterranean by a short canal. Under the Romans, it was one of the most important cities of the empire. During the Middle Ages it became the capital of a large and prosperous kingdom. Today it is a great sheep-breeding center.

Twenty-two miles to the north along the Rhone lies Avignon, also a leading Roman city. Every French child knows the song about the *Pont d'Avignon,* or "Avignon Bridge." The Romans never bridged the Rhone. Medieval engineers spanned the swift current with much difficulty in the 12th century. Their bridge served for 500 years and the four arches nearest Avignon still stand.

NOTE: The courses of the Rhine and Rhone rivers may be traced on the National Geographic Society's map of Western Europe. Write the Society's headquarters, Washington 6, D. C., for a price list of maps.

For further information on the region, see "Uncle Sam Bends a Twig in Germany," in the *National Geographic Magazine* for October, 1948; "What I Saw Across the Rhine," January, 1947; "War's Wake in the Rhineland," July, 1945; "Cologne, Key City of the Rhineland," June 1936; and "Rediscovering the Rhine," July, 1925. *(Back issues of the Magazine may be obtained from the Society's headquarters at 60¢ a copy, 1946 to date; $1.00, 1930-1945; and $2.00, 1912-1929. Earlier issues, when still in print, at varied prices.)*

DONALD McLEISH

A PONTOON BRIDGE OPENS FOR A BARGE AT EHRENBREITSTEIN, THE "GIBRALTAR OF THE RHINE"

The grain-laden vessel is towed by a tug which is out of the picture at the right. Barge traffic follows Europe's many canals between its large rivers. High on the bluff stands the ancient fortress of Ehrenbreitstein, Germany. The Stars and Stripes waved from it for five years after World War I. This region now is part of the French Zone of Occupation.

U. S. Airmen Tread Peary's Polar Footprints

MEMBERS of the Navy and Air Force groups now engaged in scientific investigation in the region of the North Pole may become the first Americans to set foot on the pole since Robert E. Peary first reached it 43 years ago this month. Already two Navy planes have landed within 60 miles of the North Pole, and the Air Force has established a semipermanent weather observation station on a floating ice-island about 100 miles from the top of the world.

Roaring blizzards and growling ice still wrestle ceaselessly across the drifting Arctic wastes, just as they did on April 6, 1909, when Peary, Matthew Henson, and four Eskimos crunched their way to the pole. Countless Americans have looked down on the scene of Peary's triumph from the relative comfort and safety of airplane cockpits, but until recently none had landed to stamp new footprints in the snows Peary trod.

Supplied Peary's Helpers

As did the current Air Force expedition, Peary chose Greenland and the rim of Ellesmere Island, northernmost tip of land in the western hemisphere, as his springboards to the pole.

Great hummocks of jagged ice pushed up by grinding pressure of the sea below, wide "leads" of open water, cracking floes, air as bitter cold as frozen steel, and endless drifts of sandlike snow cover the polar wastes. Peary's entire party consisted of seven explorers, 17 Eskimos, 133 dogs, and 19 sledges. Most of his Eskimo helpers were recruited from the village of Thule, in north Greenland (illustration, next page).

On the last day of February, 1909, when the sun first showed above the icy shore at his back, he set his face to the north. Leapfrogging pioneer parties struggled tortuously ahead, deposited caches of food, and turned back. From the 88th parallel, Peary broke his own trail.

It took five days to cover the final 125 miles, a distance that the daily polar weather planes span in half an hour today. Finally, near noon on April 6, Peary and Henson reached the North Pole—the goal that man had sought for 22 centuries, ever since the galley of Pytheas of Massalia first brought back tales of a frozen ocean far to the north.

Russia Landed Planes in 1937

Since Peary's pioneer achievement, few other men have ever been on the ice at the center of the Arctic Ocean. In 1937, four Russian planes with 35 crewmen and scientists landed on skis near the North Pole and stayed for more than two weeks. A camp was established on the ice, and when the planes departed, four men were left behind with 10 tons of equipment and supplies.

Fridtjof Nansen, in the 1890's, had drifted around the outer rim of the Arctic basin on the wooden-hulled *Fram*. The Russians drifted across the heart of the frozen sea on their ice floe. After nine months, they were rescued by icebreakers near Jan Mayen, an island off Greenland's east coast more than 1,300 miles south of the pole.

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In the south, Antarctic breezes sometimes cool the coasts; in the north, citrus fruits flourish in semitropical weather.

The flightless birds and living "fossils" are natives of the islands. The bird—the kiwi—has furlike feathers and a long nose with which it can smell out food, as well as reinforce its two feet to prop up its chunky body. The kiwi is about the size of a domestic fowl.

The fossils are dragonlike tuataras, which grow two and a half feet long. They are the last living remnants of a group of reptiles that once had three eyes—the third on top of its head. This eye has dwindled to a rosette of scales in the few tuataras now living on outlying islands.

The glowworms are tiny insects that live in the roofs of caves and use their natural radiance to attract other insects as prey.

NOTE: New Zealand is shown on the Society's map of the Pacific Ocean and the Bay of Bengal.

For additional information, see "New Zealand, Pocket Wonder World," in the *National Geographic Magazine* for April, 1952; "Finding an 'Extinct' New Zealand Bird," March, 1952; "The British Commonwealth of Nations," April, 1943; "The Making of an Anzac," April, 1942 (out of print; refer to your library); "New Zealand 'Down Under'," February, 1936; and "Waimangu and the Hot-spring Country of New Zealand," August, 1925.

THE NEW ZEALAND HERALD

NEW ZEALAND'S SHEEP OUTNUMBER ITS HUMAN POPULATION 17½ TO ONE

To its fertile grasslands—and good hard work—New Zealand owes its wealth of wool, lamb, and mutton. These sheep are headed for rich pastures in the Ruakituri Valley, south of Auckland.

Bulletin No. 4, April 28, 1952

Four New Fish Species Discovered

FOUR fishes recently added to the collection of the United States National Museum in Washington, D. C., demonstrate the fact that new fish species are constantly being discovered. Three are rays and the fourth is a member of the *Chimaeridae* family, or ghost fishes, distant relatives of the shark.

There are already more than 40,000 different kinds of known fishes, and science is still at work classifying the world's seemingly numberless underwater creatures.

Five Major Classes

To most people, whose knowledge of fish comes primarily from those they see on dinner tables or catch in sport, a walk through the forest of fish classes, families, and types appears too complicated for pleasure. In recent years, however, ichthyologists have established some paths which the curious may stroll in search for understanding of an animal that claims nearly twice as many varieties as birds, mammals, and amphibians put together.

As with other animals, the roots of the fish family tree are buried far back in geological time. Through the ages this tree has put forth innumerable branches, some of which can be seen today. Although all fish may have evolved from a common ancestor, known varieties are divided by scientists into five major classes.

The first, *Placoderm,* appears to be extinct and is known only through fossils. In the second great branch, *Marsipobranch,* the only living families are the lampreys and hagfishes.

The third arm of the tree, *Selachii,* is covered with four smaller branches, the first three of which are extinct. The last, *Euselachii,* is well known, however, and alive with growing twigs. Here are found the many types of sharks and the two known suborders of rays.

The fourth of the fish tree's five major arms is called the *Holocephali,* once believed a part of the *Selachii* branch. The *Chimaeridae* family grows here among the deadwood of a host of extinct forms.

Second-largest Food Source

The most vigorous and blooming of all the tree's growth is on the fifth and final branch where dwell *Pisces,* the bony fishes. Of the *Pisces* branch's three arms, two contain very few live fishes. However, the third, *Neopterygii,* flourishes with some 31 offshoots. Here are found the many varieties of fishes that inhabit the streams, lakes, rivers, and coastal waters of America.

Fish comprise man's largest source of food with the exception of agricultural products. Thirty billion pounds are taken yearly by the world's commercial fisheries. Only Japan heads the United States in fishery. Other leading countries are the Soviet Union, Norway, the United Kingdom, China, Canada, and Germany.

In addition to being used as a food (which is rich in protein, fat,

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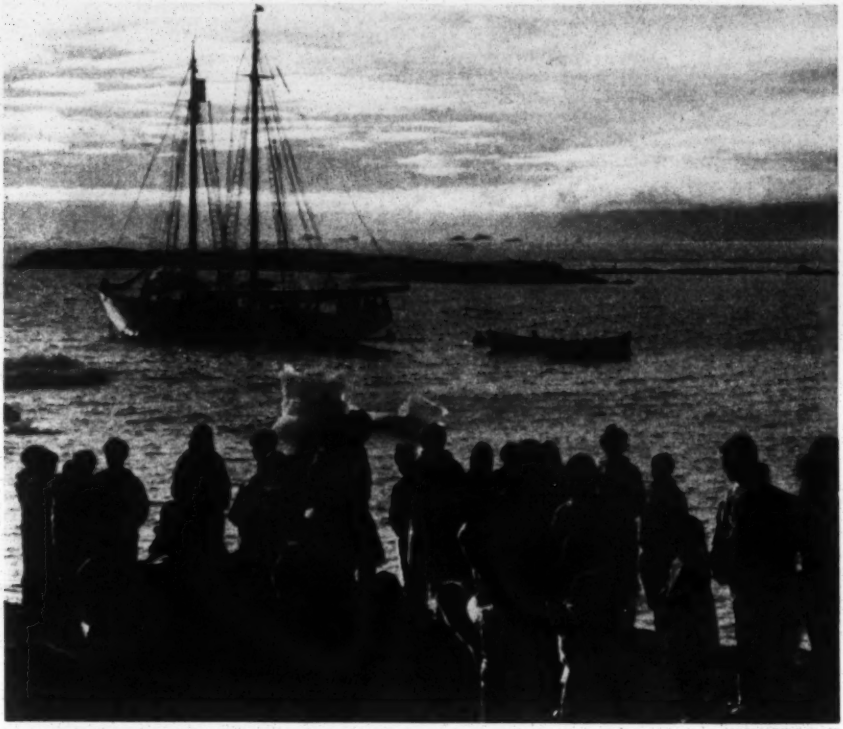
Since the end of World War II, thousands of passenger trips to the pole have been flown by specially equipped planes of the United States Air Weather Service. Crossing the untracked icecap, where magnetic compasses are useless and the horizon often disappears in the Arctic snow glare, has become a daily routine for airmen in Alaska.

In establishing the semipermanent weather station on the ice, America's modern Arctic explorers shivered in a March temperature of 60 below zero, and winds of 100 miles an hour. A plane accident hundreds of miles away marooned nine men for four days. Despite constant contact with the outside world by planes and radio, life for today's observers on the surface of the Arctic seas is little less dangerous than it was for Peary, who walked.

NOTE: Polar regions of the far north may be located on the Society's map of The Top of the World.

For further information, see "Far North with 'Captain Mac'," in the *National Geographic Magazine* for October, 1951; "Milestones in My Arctic Journeys," October, 1949; "Americans Stand Guard in Greenland," October, 1946; "Servicing Arctic Airbases," May, 1946; "Greenland Turns to America," September, 1942; and "Greenland from 1898 to Now," July, 1940.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, November 5, 1951, "Greenland's Icebergs Dwindle as Ship Menace."



RUTHERFORD PLATT

THE PEOPLE OF THULE, LARGEST POLAR ESKIMO SETTLEMENT, BID FAREWELL TO THE *BOWDOIN*

The strong-ribbed schooner is a frequent visitor to the town which provided Robert E. Peary with 50 helpers on his dash to the North Pole 43 years ago. Eight of them were still living when Donald MacMillan, skipper of the *Bowdoin*, last visited them. MacMillan, a Peary assistant, turned back short of the pole in 1909 with frozen feet.

Bulletin No. 5, April 28, 1952

Crusader Castle Still Guards Syrian Pass

IN THE mountains of western Syria, near the Lebanon border and 22 miles from the Mediterranean, stands Kalat-el-Husn, the Crusaders' mighty fortress of Krak des Chevaliers. It is a reminder to the modern world of the wars that swept the Middle East centuries ago.

This fortress alone, of the many built by the Crusaders during the 200 years they held the Holy Land, remains uncrumbled. Its companions are falling ruins or scattered piles of stones.

Has Changed Little in 800 Years

The Krak's fine state of preservation is partly due to the fact that it stands in a lonely inland region far from towns. Moslems destroyed sea-coast castles after they drove out the Crusaders. They retained the inland hill fortresses as part of their own defenses. Builders gradually reduced to ruin the castles near towns by using them as stone quarries. Nomadic Arabs settled in them from time to time, and robbers took refuge in them, increasing the destruction.

The Krak looks today much as it did in the 12th and 13th centuries when the Knights Hospitalers held it. The members of this religious order were known as the Knights of St. John of Jerusalem. They were originally a nursing brotherhood—founded in Jerusalem about 1048—who not only aided the sick, as the name indicates, but also acted as a travelers' aid society for Christians making the pilgrimage to Jerusalem.

It was not until early in the 12th century that they took on military duties. They replaced companies of feudal knights who, for one reason or another, wished to return to their European homes after several years' service in the Holy Land.

When the Christians were driven out by the Moslems at the end of the 13th century, the Hospitalers retreated westward and became known also as the Knights of Rhodes and the Knights of Malta from those Mediterranean islands on which they successively made their headquarters.

Withstood a Dozen Sieges

During the fiercest fighting of the Crusades, the Krak was a bastion protecting the Lebanese coast from the Moslems who ranged the Syrian desert. It stands on solid rock on a spur of the Gebel Alwi, overlooking the Syrian plain. It guards the pass between coastal Tripoli and Homs, on the route from Damascus to Aleppo and the north.

While held by the Christians, the mighty Krak withstood at least 12 sieges. The great Moslem leader Saladin refrained from attacking it in 1187 because he believed it could not be conquered. It remained a Crusader stronghold until the one-eyed Sultan Bibars, "the Panther," took it by trickery from the hopelessly outnumbered Hospitalers in 1271.

The loss of the powerful fortress was a great blow to the waning Christian cause. The neighbor fortress of Margab, also garrisoned by Hospitalers, held out for another 10 years, and it was 1291 before the Crusaders lost their last fort—at Acre.

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minerals, and vitamins), fish also provide oils from which are taken vitamins A and D.

Fishing for sport holds almost as important a place in man's thoughts as fishing for food (illustration, cover). Presidents and paupers hang up the "gone fishing" sign when relaxation is needed—especially in the spring. Twelve million fishing licenses are issued every year in the United States. Izaak Walton, in *The Compleat Angler*, defended fishermen in these words:

"We may say of angling as Dr. Boteler said of strawberries: 'Doubtless God could have made a better berry, but doubtless God never did'; and so, if I might be judge, God never did make a more calm, quiet, innocent recreation than angling."

NOTE: For further information see "Lake Sunapee's Golden Trout" (14 color photographs), in the *National Geographic Magazine* for October, 1950; "Menhaden—Uncle Sam's Top Commercial Fish," June, 1949; "Goggle Fishing in California Waters," May, 1949; "Shad Fishing in the Shadow of Skyscrapers," March, 1947; "Tuna Harvest of the Sea," September, 1940; and "Treasures of the Pacific," October, 1938. Many other articles are listed under "Fishes and Fisheries" in the *Cumulative Index to the National Geographic Magazine*, which you will probably find in your school or public library.

ALMA OVERHOLT

A DEEP-SEA ANGLER USES A FLYING FISH FOR A LURE

The California flying fish does not fly like a bird, by flapping its wings. It taxis along the surface of the water by vibrating the tail violently from side to side. When speed is adequate, it spreads its wings and soars or glides. When it strikes the water the tail motion again sends it upward. Flights last from a few seconds to half a minute, and cover a few feet to 100 yards.

Both Krak and Margab were far larger than any European castle-forts of the period. Krak was a Byzantine castle of little strength when it fell to the Crusaders in 1110, eleven years after the capture of Jerusalem. The Count of Tripoli, to whom it was awarded, found it too difficult to maintain with his own forces and turned it over to the Hospitalers in 1142.

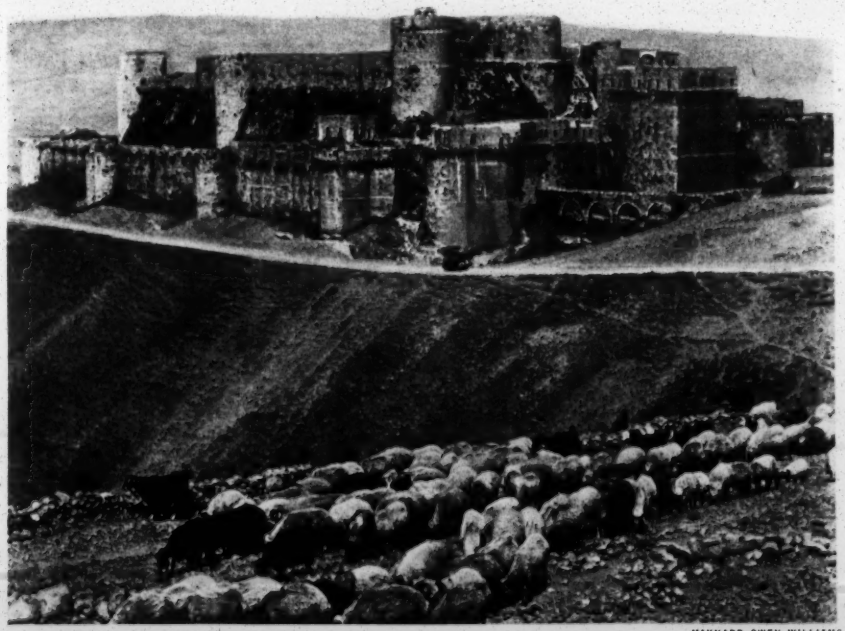
This military brotherhood built the great castle which still frowns down on the countryside. Its outer walls are 1,800 feet around, encircling inner walls and a redoubt of three connected towers, made to resist attackers who might pierce the second line of defense.

Until Bibars gained the surrender of the fortress through a false order, sheer weight of numbers, and exhaustion of the garrison, no invader ever reached the inner keep, although the Hospitalers, in their final stand, were driven to this last redoubt.

NOTE: The Krak des Chevaliers may be located on the Society's map of Bible lands and the Cradle of Western Civilization.

For additional information on this region, see "The Ghosts of Jericho," in the *National Geographic Magazine* for December, 1951; "Home to the Holy Land," December, 1950; "Syria and Lebanon Taste Freedom," December, 1946; "Palestine Today," October, 1946; "Bombs Over Bible Lands," August, 1941; "The Road of the Crusaders," December 1933; and "Crusader Castles of the Near East," March, 1931.

See also, in the GEOGRAPHIC SCHOOL BULLETINS, April 7, 1952, "Pageantry Marks Easter in Jerusalem"; "Israel Adds Marble to Its Export List," February 11, 1952; and "Jordan Administers 'Arab Palestine'," January 22, 1951.



MAYNARD OWEN WILLIAMS

FOR EIGHT CENTURIES, THE KRAK DES CHEVALIERS HAS STOOD GUARD IN THE SYRIAN HILLS

Twice the size of France's largest medieval fortresses—Coucy and Pierrefonds—the Krak had space for 5,000 knights and 1,000 horses. A windmill on its battlements ground corn for the garrison, and huge quantities of food could be stored in its vast vaults to withstand a lengthy siege.